

AO88 (Rev. 1/94) Subpoena in a Civil Case

Issued by the
UNITED STATES DISTRICT COURT

EASTERN

DISTRICT OF

VIRGINIA

SUBPOENA IN A CIVIL CASE

YISEL DEAN v. RAYTHEON ET AL.,

Case Number:¹ 05CV10155 PBS
U.S.D.C. Massachusetts

TO: David Vance
Colgan Air Inc.
10677 Aviation Lane
Manassas, VA 20110-2701

☐ YOU ARE COMMANDED to appear in the United States District court at the place, date, and time specified below to testify in the above case.

PLACE OF TESTIMONY

COURTROOM

DATE AND TIME

☒ YOU ARE COMMANDED to appear at the place, date, and time specified below to testify at the taking of a deposition in the above case.

PLACE OF DEPOSITION

Dombroff & Gilmore P.C. 1676 International Dr.
McLean VA 20110-2701

DATE AND TIME

1/26/06 11:00 am

☒ YOU ARE COMMANDED to produce and permit inspection and copying of the following documents or objects at the place, date, and time specified below (list documents or objects): Cockpit Voice Recorder for Colgan d/b/a US Airways Express Flight 9446 on 8/26/03. All documents or items received from the NTSB pertaining to this CVR

PLACE

Dombroff & Gilmore P.C. 1676 Intl. Dr. McLean VA

DATE AND TIME

1/26/06 11:00am

☐ YOU ARE COMMANDED to permit inspection of the following premises at the date and time specified below.

PREMISES

DATE AND TIME

Any organization not a party to this suit that is subpoenaed for the taking of a deposition shall designate one or more officers, directors, or managing agents, or other persons who consent to testify on its behalf, and may set forth, for each person designated, the matters on which the person will testify. Federal Rules of Civil Procedure, 30(b)(6).

ISSUING OFFICER'S SIGNATURE AND TITLE (INDICATE IF ATTORNEY FOR PLAINTIFF OR DEFENDANT)

DATE



1/18/06

ISSUING OFFICER'S NAME, ADDRESS AND PHONE NUMBER

Mary Schiavo, 28 Bridgeside Blvd., P.O. Box 1792, Mt. Pleasant, SC29465
843-216-90000

(See Rule 45, Federal Rules of Civil Procedure, Parts C & D on next page)

¹ If action is pending in district other than district of issuance, state district under case number.

AO88 (Rev. 1/94) Subpoena in a Civil Case

PROOF OF SERVICE

DATE

PLACE

SERVED

SERVED ON (PRINT NAME)

MANNER OF SERVICE

SERVED BY (PRINT NAME)

TITLE

DECLARATION OF SERVER

I declare under penalty of perjury under the laws of the United States of America that the foregoing information contained in the Proof of Service is true and correct.

Executed on

DATE

SIGNATURE OF SERVER

ADDRESS OF SERVER

 Rule 45, Federal Rules of Civil Procedure, Parts C & D:

(c) PROTECTION OF PERSONS SUBJECT TO SUBPOENAS.

(1) A party or an attorney responsible for the issuance and service of a subpoena shall take reasonable steps to avoid imposing undue burden or expense on a person subject to that subpoena. The court on behalf of which the subpoena was issued shall enforce this duty and impose upon the party or attorney in breach of this duty an appropriate sanction which may include, but is not limited to, lost earnings and reasonable attorney's fee.

(2) (A) A person commanded to produce and permit inspection and copying of designated books, papers, documents or tangible things, or inspection of premises need not appear in person at the place of production or inspection unless commanded to appear for deposition, hearing or trial.

(B) Subject to paragraph (d) (2) of this rule, a person commanded to produce and permit inspection and copying may, within 14 days after service of subpoena or before the time specified for compliance if such time is less than 14 days after service, serve upon the party or attorney designated in the subpoena written objection to inspection or copying of any or all of the designated materials or of the premises. If objection is made, the party serving the subpoena shall not be entitled to inspect and copy materials or inspect the premises except pursuant to an order of the court by which the subpoena was issued. If objection has been made, the party serving the subpoena may, upon notice to the person commanded to produce, move at any time for an order to compel the production. Such an order to compel production shall protect any person who is not a party or an officer of a party from significant expense resulting from the inspection and copying commanded.

(3) (A) On timely motion, the court by which a subpoena was issued shall quash or modify the subpoena if it

(i) fails to allow reasonable time for compliance,

(ii) requires a person who is not a party or an officer of a party to travel to a place more than 100 miles from the place where that person resides, is employed or regularly transacts business in person, except that, subject to the provisions of clause (c) (3) (B) (iii) of this rule, such a person may in order to attend

trial be commanded to travel from any such place within the state in which the trial is held, or

(iii) requires disclosure of privileged or other protected matter and no exception or waiver applies, or

(iv) subjects a person to undue burden.

(B) If a subpoena

(i) requires disclosure of a trade secret or other confidential research, development, or commercial information, or

(ii) requires disclosure of an unretained expert's opinion or information not describing specific events or occurrences in dispute and resulting from the expert's study made not at the request of any party, or

(iii) requires a person who is not a party or an officer of a party to incur substantial expense to travel more than 100 miles to attend trial, the court may, to protect a person subject to or affected by the subpoena, quash or modify the subpoena, or, if the party in whose behalf the subpoena is issued shows a substantial need for the testimony or material that cannot be otherwise met without undue hardship and assures that the person to whom the subpoena is addressed will be reasonably compensated, the court may order appearance or production only upon specified conditions.

(d) DUTIES IN RESPONDING TO SUBPOENA.

(1) A person responding to a subpoena to produce documents shall produce them as they are kept in the usual course of business or shall organize and label them to correspond with the categories in the demand.

(2) When information subject to a subpoena is withheld on a claim that it is privileged or subject to protection as trial preparation materials, the claim shall be made expressly and shall be supported by a description of the nature of the documents, communications, or things not produced that is sufficient to enable the demanding party to contest the claim.

2. Defendants did not object to the production to plaintiffs of the CVR. They only advised they did not have the CVR, or a copy of the recording but possessed only a National Transportation Safety Board ("NTSB") transcription of the recording.

3. It is the practice of the NTSB to return it to the owner of the aircraft at the conclusion of the investigation of the crash. Until recently, the NTSB insisted they no longer retained the CVR.

4. However, at request of plaintiffs' counsel, the NTSB Office of the General Counsel investigated the issue, and today they advised they found the original CVR and indeed for some reason they failed to return it to Colgan.

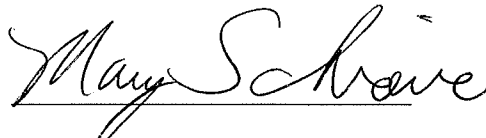
5. The NTSB advised they are immediately implementing their procedures for a return of the CVR to Colgan, but it will take several days to do so. They are returning it to David Vance, Director of Safety for Colgan Air, Inc.

6. Counsel for plaintiffs called counsel for Colgan, Mr. Tom Almy of Dombroff & Gilmore, and advised the CVR was coming to Colgan from the NTSB, and renewed the request to have access to the recording. As Colgan is no longer a party, Mr. Almy advised Colgan Air, Inc. required a subpoena and appropriate court orders requiring him to produce the CVR.

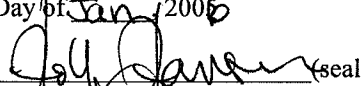
7. Plaintiffs' counsel is issuing a subpoena duces tecum for Mr. David Vance to appear and provide the CVR.

8. Mr. David Vance was deposed in the case of Colgan vs. Raytheon in Virginia (but plaintiffs herein were on motion of Raytheon defendants excluded from participation) and Raytheon Defendants have sought this court's order prohibiting depositions of person in this Massachusetts case who were deposed in the Virginia case.

FURTHER, THE AFFIANT SAYETH NOT.



Mary Schaivo

Sworn to before me this 18th
Day of Jan, 2006
 (seal)
Notary Public for South Carolina
My Comm. Expires: 7/10/2010



Aviation

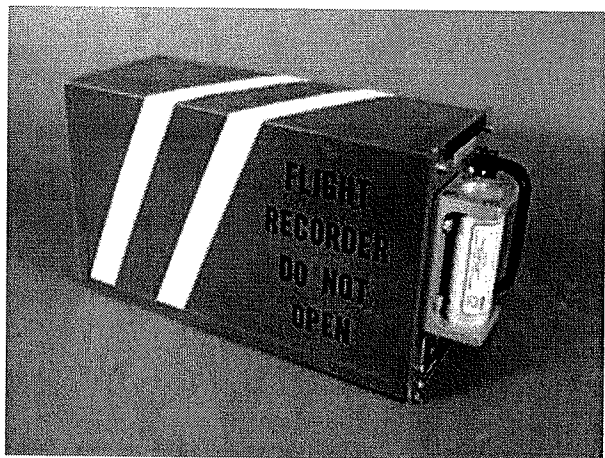
Cockpit Voice Recorders (CVR) and Flight Data Recorders (FDR)

Large commercial aircraft and some smaller commercial, corporate, and private aircraft are required by the FAA to be equipped with two "black boxes" that record information about a flight. Both recorders are installed to help reconstruct the events leading to an aircraft accident. One of these, the **Cockpit Voice Recorder (CVR)**, records radio transmissions and sounds in the cockpit, such as the pilot's voices and engine noises. The other, the **Flight Data Recorder (FDR)**, monitors parameters such as altitude, airspeed and heading. The older analog units use one-quarter inch magnetic tape as a storage medium and the newer ones use digital technology and memory chips. Both recorders are installed in the most crash survivable part of the aircraft, usually the tail section.

Each recorder is equipped with an Underwater Locator Beacon (ULB) to assist in locating in the event of an overwater accident. The device called a "pinger", is activated when the recorder is immersed in water. It transmits an acoustical signal on 37.5 KHz that can be detected with a special receiver. The beacon can transmit from depths down to 14,000 feet.

Following an accident, both recorders are immediately removed from the accident site and transported to NTSB headquarters in Washington D.C. for processing. Using sophisticated computer and audio equipment, the information stored on the recorders is extracted and translated into an understandable format. The Investigator-in-Charge uses this information as one of many tools to help the Safety Board determine the Probable Cause of the accident.

The Cockpit Voice Recorder



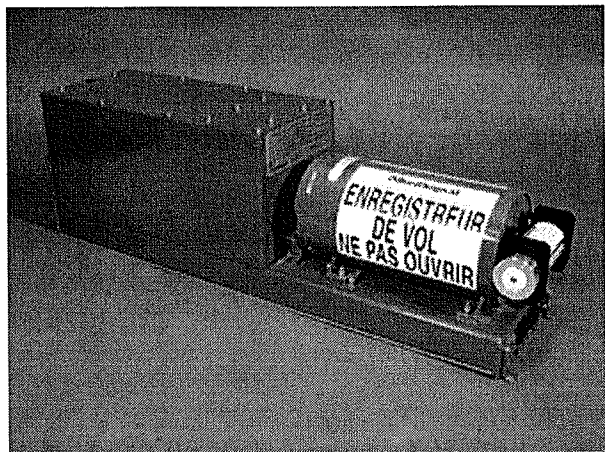
The CVR records the flight crew's voices, as well as other sounds inside the cockpit. The recorder's "cockpit area microphone" is usually located on the overhead instrument panel between the two pilots. Sounds of interest to an investigator could be engine noise, stall warnings, landing gear extension and retraction, and other clicks and pops. From these sounds, parameters such as engine rpm, system failures, speed, and the time at which certain events occur can often be determined. Communications with Air Traffic Control, automated radio weather briefings, and conversation between the pilots and ground or cabin crew are also recorded.

A CVR committee usually consisting of members from the NTSB, FAA, operator of the aircraft, manufacturer of the airplane, manufacturer of the engines, and the pilots union, is formed to listen to the recording. This committee creates a written transcript of the CVR audio to be used during the investigation. FAA air traffic control tapes with their associated time codes are used to help determine the local standard time of one or more events during the accident sequence. These times are applied to the transcript, providing a local time for every event on the transcript. More

precise timing for critical events can be obtained using sound spectrum software. The transcript, containing all pertinent portions of the recording, can be released to the public at the time of the Safety Board's public hearing.

The CVR recordings are treated differently than the other factual information obtained in an accident investigation. Due to the highly sensitive nature of the verbal communications inside the cockpit, Congress has required that the Safety Board not release any part of a CVR audio recording. Because of this sensitivity, a high degree of security is provided for the CVR audio and its transcript. The content and timing of release of the written transcript are strictly regulated: under federal law, transcripts of pertinent portions of cockpit voice recordings are released at a Safety Board public hearing on the accident or, if no hearing is held, when a majority of the factual reports are made public.

The Flight Data Recorder



The FDR onboard the aircraft records many different operating conditions of the flight. By regulation, newly manufactured aircraft must monitor at least eighty-eight important parameters such as time, altitude, airspeed, heading, and aircraft attitude. In addition, some FDRs can record the status of more than 1,000 other in-flight characteristics that can aid in the investigation. The items monitored can be anything from flap position to auto-pilot mode or even smoke alarms.

With the data retrieved from the FDR, the Safety Board can generate a computer animated video reconstruction of the flight. The investigator can then visualize the airplane's attitude, instrument readings, power settings and other characteristics of the flight. This animation enables the investigating team to visualize the last moments of the flight before the accident.

Both the Flight Data Recorder and the Cockpit Voice Recorder have proven to be valuable tools in the accident investigation process. They can provide information that may be difficult or impossible to obtain by other means. When used in conjunction with other information gained in the investigation, the recorders are playing an ever increasing role in determining the Probable Cause of an aircraft accident.

Specifications

Flight Data Recorder

Time recorded	25 hour continuous
Number of parameters	18 - 1000+
Impact tolerance	3400Gs / 6.5 ms

Fire resistance	1100 degC / 30 min
Water pressure resistance	submerged 20,000 ft
Underwater locator beacon	37.5 KHz; battery has shelf life of 6 years or more, with 30-day operation capability upon activation

Cockpit Voice Recorder

Time recorded	30 min continuous, 2 hours for solid state digital units
Number of channels	4
Impact tolerance	3400Gs / 6.5 ms
Fire resistance	1100 degC / 30 min
Water pressure resistance	submerged 20,000 ft
Underwater locator beacon	37.5 KHz; battery has shelf life of 6 years or more, with 30-day operation capability upon activation

Reviewed 9/2004

**NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorders Division
Washington, D.C. 20594**



**GROUP CHAIRMAN'S FACTUAL REPORT OF INVESTIGATION
Cockpit Voice Recorder
NYC03MA183**

by

**Douglass P. Brazy
Mechanical Engineer (CVR)**

Warning

The reader of this report is cautioned that the transcription of a CVR tape is not a precise science but is the best product possible from an NTSB group investigative effort. The transcript, or parts thereof, if taken out of context, could be misleading. The attached CVR transcript should be viewed as an accident investigation tool to be used in conjunction with other evidence gathered during the investigation. Conclusions or interpretations should not be made using the transcript as the sole source of information.

NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorders Division
Washington, D.C. 20594

October 3, 2003

Cockpit Voice Recorder

**Group Chairman's Factual Report
by Douglass P. Brazy**

A. ACCIDENT

Location: Yarmouth, MA
Date: August 26, 2003
Time: 1540 Eastern Daylight Time
Aircraft: Beech (Raytheon) 1900D, N240CJ
Operator: Colgan Air Inc.

B. GROUP

Chairman: Douglass P. Brazy
Mechanical Engineer (CVR)
National Transportation Safety Board

Member: Stephen M. Demko
Air Safety Investigator
National Transportation Safety Board

Member: L.I. "Lou" Johansen
Engineering Test Pilot
Raytheon Aircraft Company

Member: Daniel P. Diggins
Air Safety Investigator
Federal Aviation Administration

Member: LaDonn James Nunn
VP Operations
Colgan Air Inc.

C. SUMMARY

On August 26, 2003, at 1540 eastern daylight time, a Beech 1900D, N240CJ, operated by Colgan Air Inc. as flight 9446 (d.b.a. US Airways Express), was destroyed when it impacted water near Yarmouth, Massachusetts. The certificated airline transport pilot and certificated commercial pilot were fatally injured. Visual meteorological conditions prevailed for the flight that departed Barnstable Municipal Airport (HYA), Hyannis, Massachusetts; destined for Albany International Airport (ALB), Albany, New York. An instrument flight rules flight plan was filed for the repositioning flight conducted under 14 CFR Part 91.

The Cockpit Voice Recorder (CVR) contained approximately thirty-four minutes of audio. The first fifteen minutes of the recording contained some conversations among maintenance personnel and sounds consistent with maintenance work. Relatively loud banging sounds similar to hammering can be heard repeatedly throughout this portion of the recording. Subsequently, several sounds similar to electrical power interruptions occur, followed by the first conversations between the flight crew. The CVR group transcribed the latter half of the recording, beginning at the time the flight crew can first be heard, and continuing to the end of the recording. The transcript can be found in Attachment II.

D. DETAILS OF INVESTIGATION

Recorder Examination

The NTSB Vehicle Recorders Division received a Fairchild¹ model A100A, serial number 61870 magnetic tape CVR. The exterior of the CVR showed evidence of substantial structural damage.

¹ Fairchild is now known as L³ Communications.

Recorder Disassembly, Tape Removal and Preparation

The recorder was disassembled using normal tools. An optional DC to AC inverter was found installed in the recorder chassis. The internal tape spool dustcover was easily removed, and the tape and spool were found to be intact and in good condition. The only notable damage inside the crash case was some corrosion of the various metallic parts. The tape and spool were found to be wet, but otherwise intact.

The tape spool cover was removed with normal tools. The endless tape was then cut with a scissors, adjacent to the tape head assembly on the "oldest data" side of the head assembly. The tape and spool were removed from the recorder. A leader tape was spliced to each end. The tape and spool were then immersed in a bath of distilled water for cleaning. While underwater, the tape was spooled to a conventional reel for use with the CVR lab's tape playback equipment. After rinsing, the tape was removed from the water bath for further cleaning and drying. This process is done by manually spooling the tape back and forth between two reels while gently wiping the tape clean with a gauze cloth soaked in a cleaning solvent. During this process, a visual examination of the tape revealed no mechanical damage. Once cleaned and dried, the tape was played back normally and without difficulty using the CVR lab's playback equipment.

Readout

The tape was played back at the nominal speed of 1-7/8 inches per second. Typically, a 400 Hz tone (and its harmonics) heard on many CVR recordings as "background noise" can be used to fine tune the playback speed in attempt to play back the tape back at a speed as close as possible to the speed at which it was recorded. This tone was not readily apparent on this recording, which is typical of recorders fitted with an optional DC to AC inverter, as this one was.

The audio on the tape was recorded to a digital computer based audio system, to preclude any undue wear on the original tape. This digital recording was then used for subsequent evaluation by NTSB staff and the CVR group.

CVR Channels

The recording consisted of four channels of audio information, with the quality of the audio ranging from Poor to Good². One channel contained the cockpit area microphone (CAM) audio information. The CAM is mounted in the cockpit, in the overhead panel between the two pilots. It is designed to capture sounds and conversations in the cockpit area whenever the CVR system is powered. The CAM channel quality was Good.

Two of the channels contained audio information obtained from the Captain's and First Officer's audio panels, respectively. The audio panels are essentially an interface between the pilot's headsets (or the cockpit speaker) and the airplane's radio communication equipment. Radio transmissions (both transmitted and received), are captured on these channels. Additionally, "hot" microphone signals (when used) are captured through the audio panels on these channels. Hot microphones are the same microphones in the pilot's headsets that can be used for making radio transmissions. The "hot" means that they are intended to always be on and recorded by the CVR, whether or not a radio transmission is being made. However on this recording, it appears that the microphone signals captured by the CVR (from both the Captain's and First Officer's headsets) were voice activated. This is evident by the squelching of the hot microphone audio than can be heard (and seen in waveforms of the signal) numerous times after the pilots finish speaking a word or phrase. This is most noticeable whenever the background ambient noise is at a relatively low level.

Federal Aviation Administration regulations require that large turbine powered airplanes be equipped with CVR systems that record uninterrupted audio signals

² See Attachment I for a CVR Quality Ranking Scale.

received by boom microphones.³ This CVR installation may not have been in compliance with those regulations.

The First Officer's channel was recorded at a much lower volume than the other 3 channels. No incoming radio transmissions could be heard on this channel, though the First Officer did communicate with the Air Traffic Control Tower. It appears that the Captain and First Officer were using an intercom, however the Captain's voice could not be heard at all on the First Officer's Channel. A CVR test tone that can be heard briefly on this channel when the Captain performs the CVR test at 1423:51. The volume of the tone is significantly lower on this channel than it is on the Captain's channel. The quality of this channel was rated Poor.

Low signal level (volume) for VHF radio – as recorded by the CVR – is a historical problem for the Beech (Raytheon) 1900 airplanes. In 1997, after experiencing a number of similar problems with B1900 airplanes, the NTSB issued a recommendation⁴ to the Federal Aviation Administration (FAA) to address the problem. Additionally, Raytheon developed a Service Bulletin (S/B 23-3094) that outlined the replacement of an amplifier in the airplane's audio system. In 2000, the FAA issued Airworthiness Directive AD 2000-20-07, which required that all applicable B1900 airplanes comply with the tasks outlined in the Raytheon Service Bulletin.

According to the airplane's maintenance records, AD 2000-20-07, S/B 23-3094 was complied with on this airplane on December 19, 2002.

The audio from the Captain's channel was significantly louder than the audio from the First Officer's channel. The CVR test tone appeared normal. The hot mic signals and radio transmissions could both be heard relatively clearly except during the few times that they occur simultaneously. The First Officer could be heard on the Captain's channel as is typical when an intercom is used. The quality of this channel was rated as Good.

³ See 14 CFR 121.359(g). The relevant portion of this regulation applies to airplanes manufactured after October 11, 1991. The accident airplane (serial number UE-40) was manufactured in March of 1993.

⁴ NTSB Recommendation A-97-036 was Closed – Acceptable Action in January 2001

The fourth channel is typically wired to the airplane's Public Address System in the B1900. There were no PA announcements made by the crew. This channel contains some audio from both pilots' hot mics as well as incoming and outgoing radio transmissions. The volume of this audio is slightly lower than the audio on the Captain's Channel, but louder than any audio of the First Officer's Channel. The presence of this audio suggests that this CVR channel is possibly configured to capture audio from a 3rd audio panel, such as an observer's panel.

Group Activities

The CVR group convened on August 28, 2003. The group reviewed the tape and prepared a partial transcript of the recording. Each channel was reviewed individually as well as in combination with the other channels. There was little difficulty identifying the sources of each comment, and the group agreed on the content of each comment and characterization of each sound in the attached transcript.

Timing and Correlation

The times reported in the attached CVR transcript are Eastern Daylight Time (EDT). The Flight Data Recorder Group Chairman provided the correlation of the CVR elapsed time with the Flight Data Recorder time. The Aircraft Performance Specialist provided the correlation of the Flight Data Recorder time with to the recorded radar data provided by the Federal Aviation Administration's Boston Air Route Traffic Control Center (ARTCC). The times in this report reflect the clock used by Boston ARTCC, converted to the local time zone.

The times represent the beginning of the phrase or sound, and were generally measured and reported to the nearest 1 second. However, certain comments or sounds, such as the microphone clicks heard before and after each outgoing radio transmission, were measured and reported to the nearest 1/10 of a second.

Douglass P. Brazy

Mechanical Engineer (CVR)

Attachment I

CVR Quality Rating Scale

The levels of recording quality are characterized by the following traits of the cockpit voice recorder information:

Excellent Quality Virtually all of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate only one or two words that were not intelligible. Any loss in the transcript is usually attributed to simultaneous cockpit/radio transmissions that obscure each other.

Good Quality Most of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate several words or phrases that were not intelligible. Any loss in the transcript can be attributed to minor technical deficiencies or momentary dropouts in the recording system or to a large number of simultaneous cockpit/radio transmissions that obscure each other.

Fair Quality The majority of the crew conversations were intelligible. The transcript that was developed may indicate passages where conversations were unintelligible or fragmented. This type of recording is usually caused by cockpit noise that obscures portions of the voice signals or by a minor electrical or mechanical failure of the CVR system that distorts or obscures the audio information.

Poor Quality Extraordinary means had to be used to make some of the crew conversations intelligible. The transcript that was developed may indicate fragmented phrases and conversations and may indicate extensive passages where conversations were missing or unintelligible. This type of recording is usually caused by a combination of a high cockpit noise level with a low voice signal (poor signal-to-noise ratio) or by a mechanical or electrical failure of the CVR system that severely distorts or obscures the audio information.

Unusable Crew conversations may be discerned, but neither ordinary nor extraordinary means made it possible to develop a meaningful transcript of the conversations. This type of recording is usually caused by an almost total mechanical or electrical failure of the CVR system.

Attachment II – Transcript

Partial transcript of a Fairchild A100A cockpit voice recorder (CVR), s/n 61870, installed on a Beech (Raytheon) B1900D, Registration N240CJ. The airplane was operated by Colgan Air Inc. as flight 9446 on a repositioning flight when it crashed off the coast of Yarmouth, MA on August 26th, 2003.

LEGEND

RDO	Radio transmission from accident aircraft, Colgan Air 9446
CAM	Cockpit area microphone voice or sound source
HOT	Hot microphone voice or sound source
	For RDO, CAM, and HOT comments:
-1	Voice identified as the Captain
-2	Voice identified as the First Officer
-3	Voice of unidentified ground personnel
-?	Voice unidentified
STN	Radio transmission from station agent
MX	Radio transmission from Colgan maintenance facility at Hyannis
GND	Radio transmission from ground control at Hyannis
TWR	Radio transmission from Air Traffic Control Tower at Hyannis
Ch1	Audio heard on the First Officer's CVR Channel
Ch2	Audio heard on the PA CVR channel
Ch3	Audio heard on the Captain's CVR channel
*	Unintelligible word
&	Third party personal name (see note 5 below)
@	Non-pertinent word
#	Expletive
---	Break in continuity or interruption in comment
()	Questionable insertion

[] Editorial insertion

... Pause

Note 1: Times are expressed in Eastern Daylight Time (EDT).

Note 2: Generally, only radio transmissions to and from the accident aircraft were transcribed.

Note 3: Words shown with excess vowels, letters, or drawn out syllables are a phonetic representation of the words as spoken.

Note 4: A non-pertinent word, where noted, refers to a word not directly related to the operation, control or condition of the aircraft.

Note 5: Personal names of 3rd parties not involved in the conversation are generally not transcribed.

Note 6: At times, some sounds may be heard on more than one channel. For example, the CAM may also capture speech captured by a HOT microphone. Comments are generally annotated as coming from the source from which the comment was easiest to hear and discern.

AIR-GROUND COMMUNICATIONINTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>	<u>TIME and SOURCE</u>	<u>CONTENT</u>
??????	[Start of Recording - Due to electrical power interruption(s), neither the time of day nor the date could established prior to 14:23:30. The recording contained a total of approximately 15 minutes and 20 seconds of audio prior to this time. The nature of this audio was consistent with maintenance work occurring inside the airplane's cockpit and/or cabin.]		
1423:30	[Start of Transcript]		
1423:30 CAM	[sound similar to power interruption]		
1423:31 CAM	[sound of unidentified tone]		
1423:39 CAM-1	all right before start.		
1423:41 CAM-2	parking brake?		
1423:42 CAM-1	its set.		
1423:43 CAM-2	preflight's complete. cockpit scan complete.		
1423:45 CAM-1	complete.		
1423:46 CAM-2	oxygen system check?		

AIR-GROUND COMMUNICATIONCONTENTTIME and
SOURCEINTRA-COCKPIT COMMUNICATIONCONTENTTIME and
SOURCE

1423:47
CAM-1 uhhh... it was checked.

1423:48
CAM-2 circuit breakers check?

1423:51
CAM-1 checked.

1423:51
CAM-2 CVR tested?

1423:51.5
Ch3 [sound similar to CVR test tone for 1.4 seconds]

1423:52
CAM-1 its tested.

1423:52.8
Ch1 [sound similar to CVR test tone for 0.5 seconds, at significantly lower volume than the tone heard on channel 3]

1423:53.3
Ch2 [sound similar to CVR test tone for 0.03 seconds at a volume comparable to the tone heard on channel 1]

1423:53
CAM-2 FDR test and set?

1423:55
CAM-1 test and set.

1423:55
CAM-2 flight control rudder lock?

AIR-GROUND COMMUNICATIONCONTENTTIME and
SOURCEINTRA-COCKPIT COMMUNICATIONCONTENTTIME and
SOURCE

1423:57 CAM-1	removed.
1423:58 CAM-2	maintenance log, release, checked the air-craft.
1423:59 CAM-1	uhhhh. maintenance and release on aircraft.
1424:02 CAM-2	fuel (quantity)?
1424:04 CAM-1	uhhh. thirty two.
1424:06 CAM-2	thirty two.
1424:07 CAM-2	cabin signs on.
1424:09 CAM-1	on.
1424:09 CAM-2	seatbelts shoulder harnesses on.
1424:11 CAM-1	uhhhh duh duh duh. (we have a little) F D R. ok flight data recorder... and make sure.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
----------------------------	----------------

1424:21 CAM-1	it says flight data recorder's inop, I just wanna make sure...thirty one dash three... thirty one dash three A...uhhhh twenty seven...twenty eight...thirty one dash three. ok...up here. done.
------------------	---

1424:46 CAM-2	ok.
------------------	-----

1424:47 CAM-1	(eighty) one seventy three... let me check that MEL number... eighty one seventy three is still open... * * open... item.
------------------	---

1425:02 CAM-1	all right. clear on two?
------------------	--------------------------

1425:04 CAM-2	clear on two with a cap.
------------------	--------------------------

1425:05 CAM-1	all right. beacon is on. (put my master on) beacon is-
------------------	--

1425:11 CAM-3	stay on the radios. [voice in background]
------------------	---

1425:14 CAM-2	what did he say?
------------------	------------------

1425:15 CAM-1	stay on the radio.
------------------	--------------------

1425:17 CAM-1	clear on two?
------------------	---------------

INTRA-COCKPIT COMMUNICATIONAIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>	<u>TIME and SOURCE</u>	<u>CONTENT</u>
1425:18 CAM-2	clear on two with a cap.		
1425:20 CAM	[unidentified tone duration 0.27 second similar to tone heard when avionics master switch is operated]		
1425:21 CAM-1	well lets talk to 'em right now before we even spin up.	1425:29.3 RDO-1	hey &, how do you hear? [RDO or HOT]
1425:43 CAM-1	all right I got no radios over here... do you have anything out of your headset?		
1425:51 CAM-2	check check check.		
1425:53 CAM-1	all right, hold on.		
1425:54 CAM/ch3	[sound similar to altitude alerter]		
1425:55 CAM-2	check check check check check check.		
1425:57 CAM/ch3	[sound similar to blowing breath] ok. MAN tie's closed.		

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT1425:59
CAM-2check check check check check check
check check check.1426:00
HOT-2

[sound similar to static] check check.

TIME and
SOURCECONTENT1425:57.8
RDO-1and Hyannis maintenance Colgan ninety four
forty six.1426:08.0
RDO-1

Hyannis maintenance, ninety four forty six.

1426:14.4
RDO-1

&, &, anybody in the office there?

1426:20
STNhey Scott I'll try to get a hold of them on
the phone.1426:22.3
RDO-1

thanks &.

1426:25
HOT-1

all right clear on two.

1426:27
HOT-2

with a cap.

1426:28
ch3[sound similar to engine igniter electrical
noise]1426:29
HOT-1

what a cluster.

INTRA-COCKPIT COMMUNICATIONAIR-GROUND COMMUNICATIONTIME and
SOURCECONTENTTIME and
SOURCECONTENT

1426:31
HOT-2

[sound of laughter]

1426:36
CAM

[sound similar to engine noise increasing in speed]

1426:40
HOT-2

whats our weight?

1426:41
HOT-1

uhhh. I calculated lets see we got thirty two hundred, and we weigh ten seven, so uh fourteen thousand.

1426:49
HOT-2

thirteen for landing?

1426:50
HOT-1

uhhh, burn yeah, fourteen thirteen's fine.

1427:01
CAM

[sound similar to altitude alerter]

1427:03.2

RDO-1 and Hyannis maintenance Colgan ninety four forty six.

1427:19
CAM

[GPWS] bank angle.

1427:27

MX

* * *

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT1428:21
HOT-2

they might turn us back, huh?

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT1427:28.4
RDO-1

hey &, uh & told me keep my radios on... uh just per normal or per uh, I mean... uh. I mean does he want us to communicate the whole way or what's going on.

1427:40
MX

& might call ya and turn you back cause they did find a problem but I don't know for sure, he doesn't know either, *.

1427:46.8
RDO-1

ok tell ya what I'll be monitoring ARINC, I'll check in with Providence OPS also and LaGuardia OPS on the way and uh Bradley OPS that's not a problem. so I'll keep checkin in with company tell them. hey &, uh just to make sure I don't get anything on your pickup truck, you wanna come over and move her over so I don't uh scratch your paint with any dust or anything?

1428:03
MX

uh I'll come out.

1428:04.6
RDO-1

allrighty.

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE

CONTENT

1428:31
CAM-1

hey * its Scott * I got &'s message about just keeping in touch with you guys as we're heading to Albany on this ferry flight in case they wanna turn us back, so I'm gonna I'm gonna check in with uh, uh, obviously I'm gonna * check in as (long) as I can here, then I'll check in with Providence * * check in uh with Bradley, and Hartford on and on ok? [appears to be a cellular telephone conversation]

1428:56
CAM-1

well uh we got so many stations along the route that's not a problem. I'll just have to call down on the phone and just uh say ninety four forty seven or ninety four forty six continue to Albany or you know, go back. All right, see ya *, bye. [appears to be a cellular telephone conversation]

1429:15
HOT-2

[sound of cough]

1429:23
HOT-1

all right, beacon's on door lights out, avionics master's off clear on one, starting one.

1429:29
HOT-2

did that old man say he has a King Air one hundred?

1429:32
HOT-1

yeah... that one's what a two or three?

AIR-GROUND COMMUNICATIONCONTENTTIME and
SOURCEINTRA-COCKPIT COMMUNICATIONCONTENTTIME and
SOURCE

1429:35
HOT-2 that's a three fifty.

1429:36
HOT-1 ok, but he also has a King Air one hundred.

1429:39
HOT-2 that's his?

1429:40
HOT-1 uh, he's the chief pilot for 'em.

1429:42
HOT-2 ahhh, now that'd be a good job.

1429:44
HOT-1 I guess, I don't know, this company's based out of Bedford, or New Bedford, wherever that is around here. but they let him fly up and put an extra flight cycle on him because he want's to live here. So apparently-

1429:55
HOT-2 ohhh.

1429:56
HOT-1 -the company's like-

1429:57
CAM [sound similar to altitude alerter]

1430:00
HOT-1 -I mean he's driving the blue Vette over there so somethin's goin right.

1430:04
HOT-1 all right, after start.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
----------------------------	----------------

1430:07 HOT-2	external power?
------------------	-----------------

1430:08 HOT-1	it is removed.
------------------	----------------

1430:09 HOT-2	CWPs checked?
------------------	---------------

1430:10 HOT-1	checked.
------------------	----------

1430:10 HOT-2	ice protection?
------------------	-----------------

1430:11 HOT-1	uhhhoh level one.
------------------	-------------------

1430:15 HOT-2	EFIS standby attitude indicator on?
------------------	-------------------------------------

1430:16 HOT-1	on.
------------------	-----

1430:17 HOT-2	TCAS (tested) standby?
------------------	------------------------

1430:18 HOT-1	on.
------------------	-----

1430:19 HOT-2	after start checklist complete.
------------------	---------------------------------

1430:21 HOT-1	yeah I think he's a member of the QB's that's why he's got the license plate like that.
------------------	---

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1430:31
HOT-1 all right we're ready to taxi with HOTEL.

1430:39
HOT-1 interesting.

1430:50
HOT-2 we goin VFR or IFR?

1430:53
HOT-? (IFR). [on captains channel, obscured by radio transmission]

1430:54
HOT-1 that's our clearance.

1431:13
HOT-1 north ramp.

TIME and
SOURCECONTENT

1430:42.8
RDO-2 ground Colgan uh, ninety four forty six ready to taxi, HOTEL, goin to Albany.

1431:05
GND and Colgan ninety four forty six say it again you were stepped on.

1431:07.9
RDO-2 uh yeah we're ready to taxi with information HOTEL.

1431:12
GND ok where are you?

1431:12.7
RDO-2 uhh we're over at the north ramp.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT1431:34
HOT-1

basically Providence... and uh it'll be out of Providence..... Providence, GALES, one fifty one Providence, four ninety five Bradley, one thirty four Albany.

1431:52
HOT-2

Providence , GALES, you said?

1431:54
HOT-1

uhh, yeah. GALES is the one fifty four radial off of Boston... its nineteen miles but we won't get that.

1432:01
HOT-2

we're gonna get the Victor one six seven, right?

1432:03
HOT-1

yes, (you'll) get Providence, and then, on course.

1432:06
HOT-2

ok.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT1431:15
GND

roger runway two four taxi hold short one five, Colgan ninety four forty six.

1431:19.2
RDO-2

taxi to two four hold short of one five, Colgan ninety four forty six.

1432:08
GND

(Colgan) ninety four forty six cross runway one five.

INTRA-COCKPIT COMMUNICATIONAIR-GROUND COMMUNICATIONTIME and
SOURCECONTENTTIME and
SOURCECONTENT1432:16
HOT-2

watch out for the sandwich box.

1432:17
HOT-1

yeah.

1432:22
HOT-1

cross one five crossing-

1432:23
HOT-2

crossing one five, clear right.

1432:25
HOT-1

clear left.

1432:28
HOT-2

speeds are gonna be one oh four, one oh four, one fourteen, one fourteen.

1432:32
HOT-1

four fourteen fourteen fourteen me I guess uh... or do you want the one with the rig problems coming back?

1432:37
HOT-2

oh uhuh I prefer not to fly something if its broken... and I'd rather you do it because you're the pilot-in-command.

1432:47
HOT-1

all right.

1432:11.5
RDO-2 cross runway one five, Colgan ninety four forty six.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>	<u>TIME and SOURCE</u>	<u>CONTENT</u>
1432:48 HOT-2	and a broken airplane I wouldn't wanna... screw it up.		
1432:57 HOT-1	well it'll be a standard Colgan if it gets spooky on the runway abort it un-		
1433:00 HOT-2	yeah.		
1433:01 HOT-1	-tuh.		
1433:03 HOT-2	its up to you it really doesn't matter to me.		
1433:05 HOT-1	I'll drive up.		
1433:06 HOT-2	ok.		
1433:11 HOT-1	like I said, as long as its * up on the prop governor none of these airplanes get spooky, I don't think.		
1433:16 HOT-2	uuuh es you know. just a matter of take it easy, go slow.		
1433:21 HOT-1	pretty much.		

INTRA-COCKPIT COMMUNICATIONAIR-GROUND COMMUNICATIONTIME and
SOURCECONTENTTIME and
SOURCECONTENT

HOT-1 these things have been blowin a lot lately I had to reset one on uh... L V... Uniform last night.

1433:42
HOT-2 oh really?

1433:44
HOT-1 cause they're spiking, so.

1433:46
HOT-2 I thought it was cause people keep on switchin it you know MAN cool, back to AUTO.

1433:51
HOT-1 eh. well. &'s thing says ten minutes or less taxi you don't even (bother with it).

1434:15
HOT-1 Bradley OPS is one thirty point zero also, isn't it? I believe.

1434:20
HOT-1 * from memory.

1434:20
HOT-2 thirty nothing... that sounds familiar.

1434:22
HOT-1 yeah. *.

1434:24
HOT-2 I've never actually flown in there.

1434:27
HOT-1 oh. ok.

AIR-GROUND COMMUNICATIONCONTENTTIME and
SOURCEINTRA-COCKPIT COMMUNICATIONCONTENTTIME and
SOURCE

1434:29
HOT-1 yeah.

1434:48
HOT-1 all right, run the checklist. [sound similar
to belch] oh my.

1434:52
HOT-2 ok takeoff data brief... we got the speeds,
and I guess-

1434:56
HOT-1 it'll be me, standard Colgan red light and
emergency speeches we've done many times be-
fore, questions, comments additions?

1435:02
HOT-2 no.

1435:02
HOT-1 all right-

1435:02
HOT-2 complete.

1435:03
HOT-1 -complete.

1435:03
HOT-2 altimeter set to... two nine eight seven?

1435:08
HOT-2 set?... set and cross checked. flight in-
struments radios set checked.

1435:13
HOT-2 auto feather?

AIR-GROUND COMMUNICATIONCONTENTTIME and
SOURCEINTRA-COCKPIT COMMUNICATIONCONTENTTIME and
SOURCE

1435:14
HOT-2 flaps are zero indicating zero, three trims are set.

1435:18
HOT-1 roger.

1435:18
HOT-2 cabins ready PA not required. taxi check complete.

1435:24
CAM-1 *.

1435:26
HOT-2 nice airplane.

1435:28
HOT-1 yup. somebody's got money.

1435:31
HOT-2 Lear thirty one?

1435:33
HOT-1 not my color, but.

1435:35
HOT-2 no.

1435:35
HOT-1 I woulda gone a dark blue, but, oh well.

1435:37
HOT-2 I'd still fly it.

AIR-GROUND COMMUNICATIONCONTENTTIME and
SOURCEINTRA-COCKPIT COMMUNICATIONCONTENTTIME and
SOURCE

1435:38
HOT-1 oh yeah, I'd still own it too but... oh well.

1436:12
HOT-1 that's not a forty five?

1436:13
HOT-2 no.

1436:41
HOT-2 actually..... maybe it is.

1436:52
HOT-1 I can't tell 'em apart.

1436:53
HOT-2 I can't remember how many windows the thirty one has.

1437:17
HOT-1 all right. forty six is ready * *.

1437:25
HOT-1 bottom's check.

1437:26
HOT-2 top's check.

1437:28
CAM-1 ice protection (level 1).

1437:30
HOT-2 props forward condition levers set transponder and TCAS are on, environmentalals and bleeds are off, CWP's checked.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1437:36
HOT-1 *.

1437:37
HOT-2 external lights? holding.

1437:40
HOT-1 hold on the lights.

1437:43
HOT-2 eighteen-

1437:44
HOT-1 nineteen five.

1437:45
HOT-2 -nineteen five.

1438:08
CAM

[sound similar to increase in engine/
propeller speed]

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1437:48.1
RDO-2 tower Colgan uh ninety four forty six, ready
 to go, two four.

1438:04
TWR Colgan ninety four forty six after departure
 fly heading two seven zero, runway two four
 cleared for takeoff.

1438:08.4
RDO-2 cleared for takeoff two four Colgan...
 ninety four forty six two seventy on the
 heading.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>	<u>TIME and SOURCE</u>	<u>CONTENT</u>
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1438:35 HOT-1	and... set the power.		
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1438:35.6 HOT-2	power's set.		
--------------------	--------------	--	--

1438:37.3 HOT-2	eighty knots.		
--------------------	---------------	--	--

1438:40.4 HOT-2	V1... rotate.		
--------------------	---------------	--	--

1438:46.3 HOT-1	* we got a hot trim, Steve.		
--------------------	-----------------------------	--	--

1438:48 HOT-1	kill the trim kill the trim kill the trim.		
------------------	--	--	--

1438:50.6 HOT-1	roll back Steve roll back roll back roll back roll back-		
--------------------	---	--	--

1438:53 HOT-2	I got it.		
------------------	-----------	--	--

1438:54 HOT-1	-(pull) back		
------------------	--------------	--	--

1438:54 HOT-2	hold on- hold on.		
------------------	-------------------	--	--

1438:55 HOT-1	she's heavy buddy.		
------------------	--------------------	--	--

1438:56 HOT-1	roll it back * roll my trim Steve.		
------------------	------------------------------------	--	--

AIR-GROUND COMMUNICATIONCONTENTTIME and
SOURCEINTRA-COCKPIT COMMUNICATIONCONTENTTIME and
SOURCE

1439:00
HOT-1 do the electric trim disconnect... hold-

1439:02
HOT-1 -all right, Steve.

1439:04
HOT-1 hold back Steve.

1439:04.7
HOT-1 no. go on the controls with me Steve.

1439:06
HOT-2 I got it.

1439:07
HOT-1 all right.

1439:11
HOT-1 all right.

1439:13
HOT-1 all right.

1439:14
HOT-1 put our gear up.

1439:14.8
CAM [sound similar to landing gear motor noise,
duration 5.5 seconds]

1439:16
HOT-1 all right.

1439:18
HOT-1 gimme flaps up.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1439:19
HOT-2

flaps are up.

1439:20
HOT-1

flaps are up.

1439:33
HOT-2

you want power back?

1439:33.9
HOT-1

pull the power back. pull the power back.

1439:36
HOT-2

slowly.

1439:36.4
ch2

[sound similar to decrease in engine/propeller speed]

1439:40
HOT-1

all right, were gonna need both of us on this Steve.

1439:48
HOT-2

(could) I pull the breaker?

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1439:21.7
RDO-1

ninety four forty six requestin' uh... 'mergency back sir, we got a... runaway trim.

1439:28
TWR

Colgan ninet * * six roger, right or left downwind your choice, and report midfield.

1439:32.6
RDO-1

(midfield). [HOT or RDO]

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

TIME and
SOURCE

1439:49 CAM	[sound similar to altitude alerter]
1439:49 HOT-1	pull the breaker Steve.
1439:51 HOT-1	pull the breaker.
1439:53 HOT-1	I got it if you've got the trim baby.
1439:54 HOT-2	where is it?
1439:56 HOT-1	find it *.
1439:58 HOT-1	look left of the silver thing, Steve. look left of the silver thing.
1440:02 HOT-2	left of the silver thing?
1440:03 HOT-1	left of the silver thing Steve.
1440:05 HOT-1	don't let go of the st- control Steve, just stay with me.
1440:17 HOT-1	you pull back for all your worth, baby.

INTRA-COCKPIT COMMUNICATIONAIR-GROUND COMMUNICATIONTIME and
SOURCECONTENTTIME and
SOURCECONTENT

1440:28
HOT-1

just keep (pulling/holding) back for all
your worth.

1440:34
HOT-1

Steve (pull/hold) back.

1440:35
HOT-2

ahhh.

1440:36
HOT-1

(pull/hold) back.

1440:37
HOT-1

ahhh.

1440:39
ch3

[GPWS] terrain terrain. * pull up.

1440:42
HOT-1

Steve keep-

1440:42
HOT-2

I'm pullin.

1440:31.0

RDO-1 * ninety four forty six is requesting three
three sir.

1440:35
TWR

* * four forty six sir, roger-

1440:37
TWR

-runway three three-

1440:38
TWR

-uh * cleared to land

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1440:44 HOT-2	#.
1440:45 HOT-1	Steve, hold on.
1440:46 HOT-2	uhh.
1440:46 HOT-1	oh no.
1440:47 HOT-1	[sound similar to scream]
1440:47 ch3	[GPWS woop woop pull up pull-]
1440:47.4 CAM	[end of recording]
	[End of Transcript]

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS**

**CONSOLIDATED UNDER
CASE NO. 05-10155 PBS**

YISEL DEAN, et. al.,

Plaintiff,

vs.

RAYTHEON COMPANY, et al.,

Defendants.

Case No.: 05 CV 10155 PBS

LISA A. WEILER, et. al.,

Plaintiff,

vs.

RAYTHEON COMPANY, et al.,

Defendants.

Case No.: 05 CV 10364 PBS

**MEMORANDUM OF POINTS AND AUTHORTIES IN SUPPORT OF MOTION FOR
ORDER TO PRODUCE THE COCKPIT VOICE RECORDER (CVR) RECORDING**

I. SUMMARY OF ARGUMENT

Plaintiffs have repeatedly requested of all defendants (Raytheon and Colgan) the original cockpit voice recorder tape recording ("CVR"), sometimes referred to as a black box, for the Colgan Air, Inc. Flight 9446. Defendants did not object to the production to plaintiffs of the original and unedited CVR recording. Defendants advised they did not have the CVR, or a copy of the actual recording, but possessed only a National Transportation Safety Board ("NTSB")

transcription of the recording. It is the practice of the NTSB to return it to the owner of the aircraft at the conclusion of the investigation of the crash. Until recently, the NTSB insisted they no longer retained the CVR. However, at the request of plaintiffs' counsel, the NTSB Office of the General Counsel investigated the issue, and today they advised they found the original CVR and commenced the process to return it to Colgan Air, Inc. The NTSB advised they are immediately implementing their procedures for a return of the CVR to Colgan, but it will take several days to do so. They are returning it to David Vance, Director of Safety for Colgan Air, Inc, in the state of Virginia.

Counsel for plaintiffs called counsel for Colgan, Mr. Tom Almy of Dombroff & Gilmore, and advised the CVR was coming to Colgan from the NTSB, and renewed the request to have access to the recording. As Colgan is no longer a party, Mr. Almy advised Colgan Air, Inc. required a subpoena and appropriate court orders requiring him to produce the CVR. Plaintiffs' counsel is issuing a subpoena duces tecum for Mr. David Vance to appear and provide the CVR. See Exhibit 1. As Mr. David Vance was deposed in the case of Colgan vs. Raytheon in Virginia (but plaintiffs herein were, on motion of Raytheon defendants, excluded from participation) and Raytheon Defendants have sought this court's order prohibiting depositions of person in this Massachusetts case who were deposed in the Virginia case, Plaintiff requests this court's order permitting the deposition of Mr. David Vance.

Plaintiffs also request the court's order to address the handling and protection of the CVR and as set for herein below, and appropriate orders are suggested herein and a proposed order is filed herewith. Attached hereto, as exhibit 2, is the affidavit of Mary Schiavo attesting to the above facts.

It is well established that the materials requested are critical:

The use of voice recordings is a fact of aviation litigation life. In commercial airline disasters the audiotapes are oftentimes the best

and most reliable tool available for reconstructing what occurred. Dombroff, "Demonstrative Evidence and Its Effective Use In Aviation Litigation," Litigating the Aviation Case at 136 (ABA 1998).

The NTSB docket includes a transcript of the CVR. It describes in words numerous mechanical and aerodynamic sounds, in addition to human voices, audible in the cockpit. Representatives of defendants Raytheon (and Colgan Air, Inc.), were participants in the NTSB investigation of the CVR. The CVR recording is subject to interpretation and members of the NTSB group do not always agree as to what the sounds were. However, plaintiffs were not permitted to participate in the NTSB investigation because they were not deemed a party to the investigation. A party, as defined by the NTSB on their website:

The NTSB designates other organizations or corporations as parties to the investigation. Other than the FAA, which by law is automatically designated a party, the NTSB has complete discretion over which organizations it designates as parties to the investigation. Only those organizations or corporations that can provide expertise to the investigation are granted party status and only those persons who can provide the Board with needed technical or specialized expertise are permitted to serve on the investigation; persons in legal or litigation positions are not allowed to be assigned to the investigation. All party members report to the NTSB.

The NTSB's transcript does not provide adequate information for the purposes of this litigation. Plaintiffs cannot receive a fair trial without the actual unedited cockpit voice recorder tape because it is the actual recording of their last acts as pilots, as their last few minutes of life. Fundamental fairness requires the plaintiffs be given access to the most reliable tool available for reconstructing what occurred. Plaintiffs now move for the limited production of the recording authorized by 49 U.S.C. § 1154.

II. COMPLIANCE WITH THE LOCAL RULES

Before this motion was filed, counsel for plaintiffs conferred with Counsel for Colgan Air, Inc., Tom Almy, about how he wished to proceed as Colgan is the owner of the CVR. He stated Colgan Air Inc. required a subpoena and court order. Therefore we have conferred by phone, for the purpose of attempting to resolve all disputed issues in compliance with Civil Local Rule 7. We are not really in dispute, but we do need this Court's order because Colgan Air, Inc. is no longer a party

III. FACTUAL BACKGROUND

A. The Flight

Colgan Air, Inc., Flight 9446 departed Hyannis, Massachusetts at approximately 15:40 eastern daylight time on August 26, 2003. It was headed north to Albany International Airport in Albany, New York. By, 1540:47 eastern daylight time, it crashed in the Atlantic Ocean just off the shores of Yarmouth, Massachusetts. During the short flight, the cockpit crew discussed what was going wrong with the plane, responded to various sounds and events, and fought to save the plane. The only contemporaneous record of those events is the CVR recording.

B. The Cockpit Voice Recording

The cockpit voice recorder ("CVR") is a tape recording device containing an endless loop 30 minutes in length. By means of a cockpit area microphone, the CVR records conversations between the captain and first officer and anyone else in the cockpit, air traffic controllers' transmissions as heard by the crew, plus mechanical, electrical, and aerodynamic sounds discernable in the cockpit. A copy of the NTSB online description is attached as Exhibit 3.

The CVR tape was recovered by the NTSB as part of its investigation of the crash. A partial transcript has been published and is available as Document 24 from the NTSB docket in this case, NTSB Group Chairman's Factual Report of Investigation Cockpit Voice Recorder, see Exhibit 4. Both Raytheon and Colgan were members of this group. However, it is well accepted that the CVR transcript prepared by the NTSB is for accident investigation purpose and not for litigation. Thus, the NTSB transcript was not prepared for litigation related purposes and does not contain all of the information. The transcript is not certified for accuracy, and plaintiffs need the actual recording for expert analysis and for accuracy. The NTSB report itself warns "that the transcription of a CVR tape is not a precise science." Verbal descriptions of sounds are wholly inadequate substitutes for hearing actual sounds.

The entire tape has been reviewed by the NTSB, Raytheon Defendants and former defendant Colgan Air, Inc., but not by plaintiffs' representatives. The CVR starts at 1423:30 ET and the tape ends with the crash at about 1440:47.4 ET. The transcript does not and cannot properly disclose every sound recorded on tape. In addition to not describing what the group deems unintelligible words, non-pertinent words and expletives, the transcript refers to numerous sounds described as "sounds similar to....."

Sounds	CVR Transcript – Exhibit 1
Sound similar to power interruption	12
Sound of unidentified tone	12,
Sound similar to CVR test tone	13
Unintelligible word (designated by *)	15, 18, 19, 20, 26, 27, 29, 30, 31, 32, 34, 35, 36
Voice in background	15
Sound of unidentified tone similar to tone heard when avionics master switch is operated	16
Sound similar to altitude alerter	16, 18, 21, 35
Sound similar to blowing breath	16
Sound similar to static	17
Sound similar to engine igniter electrical noise	17
Sound of laughter	18
Sound similar to engine noise increasing in speed	18
Appears to be a cellular telephone conversation	20
Sound of cough	20
Sound similar to belch	28
Sound similar to increase in engine/propeller speed	31
Sound similar to landing gear motor noise	33
Sound similar to decrease in engine/propeller speed	34
Expletive (Designated by #)	37
Sound similar to scream	37

All of these sounds need to be analyzed by plaintiffs' experts. This cannot be done from a transcript. The CVR has been made available in almost every major aviation litigation. This request and the production are in no way unusual and this is a standard request.

C. Discovery Proceedings

Plaintiffs requested the Raytheon Defendants and former defendant Colgan Air, Inc. produce an unedited recording of the CVR tape for Flight 9446. In response to those discovery requests, all defendants and Colgan Air, Inc. state that they have affirmatively searched for but did not find the recording in their possession. Colgan counsel then concluded that the NTSB never returned it. No defendants objected to the production. Fundamental fairness compels the plaintiffs be entitled to this crucial piece of evidence. The NTSB was requested by plaintiffs to provide a copy of the recording from their copy reproduced from the CVR, and they refused. The NTSB finally found the CVR this morning and they are returning it to Colgan Air Inc. Colgan Air Inc. requested a subpoena and court order to produce

D. Production of the Entire CVR Recording is Compelled by the Facts of this Case.

Title 49 U.S.C. § 1154 regulates CVR discovery and provides a mechanism for the court to allow disclosure of the recording with adequate protection. That statute provides relevant part at subpart (a)(3)(A):

...a court may allow discovery by a party of a cockpit voice recorder recording if, after an in camera review of the recording, the court decides that-

(i) the parts of the transcript made available to the public under section 1114(c) of this title and to the party through discovery...do

not provide the party with sufficient information for the party to receive a fair trial; and

(ii) discovery of the cockpit voice recorder recording is necessary to provide the party with sufficient information for the party to receive a fair trial.

The transcript has already been made public, so the issue of an in camera review is moot. The statute also provides that when the court allows discovery of a CVR recording, the court must issue a protective order limiting the use of the recording to the judicial proceeding. 49 U.S.C. § 1154(a)(4)(B). Obviously, Plaintiffs are willing to enter a Protective Order restricting their use to the judicial proceeding because the voices on the recordings are of their loved ones as they died.

The purpose of this statute and legislation concerning the cockpit voice recorder was to prevent and preclude premature public disclosure, resulting in premature speculation and misinformation, as to the cause of an accident before the NTSB reaches its conclusions. It is also designed to prevent sensationalism. Plaintiffs refer to the Court to 1990 U.S. Code Congressional and Administrative News, p. 6381 (Exhibit 4) which discusses the legislative intent of the statute and provides in pertinent part:

This section also amends Section 306 to restrict the ability of litigants to misuse the recording or transcription in a lawsuit by setting standards for discovery and requiring that if discovery of non-public portions of a recording or transcript is obtained, a protective order is to be issued limiting the use of the information to that proceeding. It also prohibits dissemination of the recording

or portion to anyone who does not need the information for the proceedings. This provision is intended to eliminate the use of such information except to insure that litigants are able to receive a fair trial.

When signing this bill, former President Bush said the following:

I am also concerned that the provision of S.3012 dealing with the disclosure of the airline cockpit voice recorder transcripts and recordings be interpreted in a manner that is fair to all parties. It is important to protect these materials from sensationalism and unwarranted disclosure but it is also important that the courts provide prompt and complete disclosure to litigants with an interest in judicial proceedings involving aircraft accidents. Every effort should be made to construe the provisions in S.3012 in a way that preserves an appropriate balance between these goals. Id. At 6381-1 (Exhibit 5)

Allowing defendants both to hear the unedited CVR tape and participate in the NTSB Group producing an edited version of the CVR tape, without allowing Plaintiffs' representatives to examine the unedited version, is not fair to all parties and is a denial of due process. A fair trial cannot be had without the CVR tape. The transcript was made public by the NTSB in February 2004. Thus, government concerns over premature disclosure, speculation, and misinformation are moot at this point.

In this crash, what occurred with the plane and its pilots is the very heart of the case. The report issued by the NTSB contains several places where the committee omitted portions of the cockpit conversations, or was unable to identify the speaker or what was said. The sterile

transcript cannot communicate the non-verbal sounds in the background, as well as the speakers' inflection, pitch, or other voice characteristics that can only be determined from listening to the actual sounds memorialized on the tape. The edited transcript of the CVR recording is a cold recitation of what the committee, including defendants Raytheon and Colgan deemed important and relevant to the investigation of the crash.

The edited transcript alone does not and cannot reflect the aerodynamic and mechanical sounds audible in the cockpit. Word descriptions of sounds are completely inadequate substitutes for the sounds themselves. The transcription of a sound heard is filtered through the transcriber's subjective interpretation and the interpretation reduced to writing according to the transcriber's ability to transform his subjective interpretation into words. Two transcribers hearing the same exact sound could transcribe it differently. One person's unidentifiable tone is another person's master switch on CVR test tone, for example. This problem is abundantly clear in looking at the transcript which contains multiple references to "sounds like...." The transcriber is clearly unsure as the transcript does not say, "It is the sound of ____." These seemingly subtle differences are important because a click to an expert may indicate one malfunction and a clunk another. It is well known in language translation that nuances are lost, and sometimes a translation conveys a completely different meaning from the original language. Plaintiffs are entitled to the best evidence available. The primary source is the CVR tape. A transcription is only a secondary source, not the best evidence available. A transcription can never convey 100 percent of the information on the tape and it may even be misleading to the extent a noise interpreted as a click is really a clunk on the tape. A wrongful death case must not turn on a transcriber's subjective interpretation of a noise. It is impossible to record on paper both those sounds as well as the inflection in the pilots' voices.

Finally, the NTSB Group also could not capture the inflections in the pilots' voices which could show their awareness and concern for the plane's handling and the conditions that existed in the minutes before, and during, the efforts to save the flight and the crash of Flight 9446.

Plaintiffs' experts need to listen to the recording. Allowing the plaintiffs an opportunity to hear the tape is important crucial evidence that goes to the heart of the reason Flight 9446 crashed.

To properly prepare for and to receive a fair trial, it is critical that the plaintiffs be provided full access to all recorded materials to understand as much about what happened in the airplane before, during and at the time of the crash. Without hearing the unedited recording, Plaintiffs will never know what actually happened and will be unable to properly prepare for trial and receive a fair trial. Because the CVR recording is the only truly objective record reflecting the sounds audible in the cockpit when Flight 9446 crashed, it should be thoroughly be examined by all parties.

Finally, the voices on that recording are the last words of Scott A. Knabe and Steven Dean. Their voices and their words belonged to them, and now to their estates. Both families request to hear it. This is a common request in the aftermath of a plane crash. The NTSB (and the FBI in the 9/11 investigation) have permitted the families to hear the CVR.

IV. PROTECTIVE ARGUMENT TO PRESERVE THE ISSUE FOR THE RECORD

If Plaintiffs are not given the access to the CVR, such right to this evidence is so fundamental that to deprive thereof it is constitutional violation. The statute controlling access to the CVR is unconstitutional as it violates separation of powers and due process

A. Separation of Powers

Our system of government requires three separate branches of government: executive, legislative, and judicial. The importance of an independent and impartial judiciary is advanced by this doctrine. The judicial branch maintains the checks and balances of our Constitutional government and guarantees that the process of adjudication itself remains impartial, unencumbered by the interests of the other branches of government. Northern Pipeline Construction Co. v Marathon Pipe Lines Co., 48 U.S. 50, 58 (1982).

One test to determine whether an act of Congress unconstitutionally impinges on the judiciary is to determine “the extent to which the encroachment of one branch of government upon the other prevents the affected branch from accomplishing its Constitutionally assigned functions. Nixon v. Administrator of General Services Administration, 433 U.S. 425, 433 (1976).

The CVR statute invades the Court’s control of both discovery and trial evidence. The statute prohibits any disclosure to plaintiff of the non-publicly disclosed segments of the transcript as well as prohibits disclosure of the CVR recordings themselves except after an in camera review in which the court must determine that the plaintiff will be denied a fair trial unless access is allowed. However, the determination of discoverability of information and admissibility of evidence is a central role for the court in providing litigants with a fair trial. However, Congress and the NTSB have usurped that judicial function. This is a prohibited encroachment by one branch of government upon another which was condemned in Nixon v. Sirica, 47 F.2d 700, 19 ALR Fed. 343, 361 (1973); Nixon v. Administrator of General Services Administration, *supra*.

Thus, the statute violates the separation of powers between the judicial, executive, and legislative branches.

B. Due Process

The statute denies plaintiffs the Constitutional right to a fair trial. The CVR statute coupled with the NTSB regulations pertaining to accident investigation guarantee that plaintiffs are precluded from access to CVR recordings. The mechanism of this involves NTSB regulations governing the conduct of the accident investigation. The NTSB has the sole authority to identify who participates in the investigation teams. 49 CFR 831.11(a). However, "claimants and insurers" are specifically excluded from such participation. 49 CFR 831.11(c). Further, the flow and dissemination of accident investigation information is restricted to the Board's accident investigation personnel and persons authorized by the Investigator In Charge, the Director, Bureau of Accident Investigation, and the Director of the Bureau of Field Operations. 49 CFR 831.12. While parties to the investigation, as defined in 49 CFR 831.11(a), may relay to their respective organization information necessary for purposes of prevention or remedial action under 49 CFR 831.13(b). However, in application, the airlines, aircraft manufacturers, and other parties to the investigation, who may be defendants to civil litigation, have access to the CVR recordings in the early stages, but the plaintiffs do not. Thus, the fundamental right to a fair trial is denied.

The CVR statute grants access to critical evidence to the NTSB and the "parties" it chooses to identify, but cannot include any plaintiffs or their representatives. This gives an unfair advantage to defendants.

Because the right to a fair trial is fundamental, "strict scrutiny is required to determine if a statute passes Constitutional muster." In Re Murchison, 349 U.S. 133 (1955); Estelle v. Williams, 425 U.S. 501 (1976). It does not do so here and should be declared unconstitutional.

V. THE CVR RECORDING IS HIGHLY RELEVANT TO PLAINTIFFS' DAMAGES CLAIM

In air crash cases, the CVR is a central, and indeed essential, piece of evidence:

The use of voice recordings is a fact of aviation litigation life. In commercial airline disasters, the audio tapes are oftentimes the best and most reliable tool available for reconstructing what occurred.

The source of this learned summation is none other than counsel for Colgan Air Inc., Mr. Mark A. Dombroff. See "Demonstrative Evidence and its Effective Use in Aviation Litigation," in General Aviation Accident Litigation 311, 329 (Practicing Law Institute, Mark A. Dombroff, Chair 1986). This case is no exception to Mr. Dombroff's sage conclusion.

What occurred aboard Flight 9446 in the minutes prior to impact is a critical damages issue in this case. The pilots observed uncommanded movement of the trim controls, fought to save the plane, suffered physical injury, and experienced pain, suffering, terror, and emotional distress of the apprehension of certain death prior to impact. The CVR is only one of two sources, the other being the flight data recorder ("FDR") which records certain instrument and control settings, of direct evidence of what was transpiring aboard Flight 9446 prior to the fatal crash. Thus, along with the FDR, the CVR recording contains the most probative evidence of the substantial pre-death pain, suffering and emotional distress of the apprehension of certain death experienced by the plane's crew.

In this case, as the NTSB has noted, the 31-minute CVR tape contains “four channels of good quality audio information” including information from the cockpit area, the aircraft’s public address system, and the captain and first officer’s audio panels.

Not only is the actual recording required by the Rules of Evidence, but, as the examples in the chart at pages 5-6 hereinabove indicate, there are myriad sounds preserved by the CVR recording that are not adequately described by the NTSB transcript – nor can they be.

Voices and sounds paralleling the crash occurrences are relevant to the complete comprehension of the final minutes of flight 9446. The dialogue, voice inflections, and statements by the pilots, are essential to adequately convey the increasing seriousness and intensity of the circumstances to which the occupants of the aircraft were exposed, and are thus probative of the intense situation.

Moreover, the sounds on the CVR recording cannot be adequately conveyed to the experts and later to a jury through any means other than the CVR recording, are the most probative evidence.

A transcript is not an adequate substitute for this evidence. Indeed, the NTSB Group Chairman’s Factual Report regarding the CVR recording acknowledges the element of subjectivity expressly cautions against relying solely on the transcript:

Warning

The reader of this report is cautioned that the transcript of a CVR tape is not a precise science but is the best product possible from an NTSB group investigative effort. The transcript, or parts thereof, if taken out of context, could be misleading. The attached

CVR transcript should be viewed as an accident investigation tool to be used in conjunction with other evidence gathered during the investigation. Conclusions or interpretations should not be made using the transcript as the sole source of information.

See Group Chairman Factual Report, Cockpit Voice Recorder, NTSB Exhibit No 5.

VI. NOTHING IN 49 U.S.C. § 1154 PROHIBITS DISCOVERY OF THE CVR RECORDING

Federal statutory law – namely 49 U.S.C. § 1154 – does not bar the use of the CVR recording in this case. Instead, they set forth the standards of discovery of CVR recordings. See 49 U.S.C. § 1154(a)(3)(B) (discovery of CVR may be had only if trial court determines that “discovery of the cockpit or surface vehicle recorder recording is necessary to provide the party [seeking discovery] with sufficient information for the party to receive a fair trial.”) It permits use of CVR recordings “if the court places the part of the transcript or the recording under seal to prevent the use of the part of the transcript or the recording for purposes other than for the proceeding.” 49 U.S.C. § 1154(4)(B).

VII. CONCLUSION

WHEREFORE, Plaintiffs, after conferring with, and as requested by, Colgan Air Inc., owner of the CVR, respectfully asks the Court to order the production of the unedited CVR to Plaintiffs, that Plaintiffs be allowed to inspect, listen and make duplicate copies of the recording (subject to the protective orders of this court) for use by its experts and at trial herein, and for the Court to issue an appropriate protective order as set forth in 49 U.S.C. § 1154, as set forth in the proposed protective order submitted herewith.

January 18, 2006

Respectfully Submitted,

/s/ Mary Schiavo

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CERTIFICATE OF SERVICE

I hereby certify that on the 18th day of January, a true and correct copy of the above and foregoing MEMORANDUM OF POINTS AND AUTHORTIES IN SUPPORT OF MOTION FOR ORDER TO PRODUCE THE COCKPIT VOICE RECORDER (CVR) RECORDING was sent to the following attorneys of record for service via electronic filing.

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**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS**

**CONSOLIDATED UNDER
CASE NO. 05-10155 PBS**

YISEL DEAN, et. al.,

Plaintiff,

vs.

RAYTHEON COMPANY, et al.,

Defendants.

Case No.: 05 CV 10155 PBS

LISA A. WEILER, et. al.,

Plaintiff,

vs.

RAYTHEON COMPANY, et al.,

Defendants.

Case No.: 05 CV 10364 PBS

**PROPOSED PROTECTIVE ORDER FOR PRODUCTION OF
COCKPIT VOICE RECORDER**

Upon motion of the plaintiffs, and for good cause shown it is hereby

Ordered:

In accordance with the provisions of 49 U.S.C.A. § 1154(a)(4)(A), and after a review of the transcript of the recording (an in camera review not being necessary as the transcript has already

been made public by the National Transportation Safety Board (NTSB)), this Court finds as follows:

(A) The parts of the transcript made available to the public under section 1114(c) or 1114(d) of this title and to the party through discovery (which was the same as that available to the public), do not provide the plaintiffs with sufficient information for the plaintiffs to receive a fair trial; and

(B) Discovery of the cockpit voice recorder (CVR) recording is necessary to provide the party with sufficient information for the plaintiffs to receive a fair trial.

Further this court issues its protective order, as follows:

(A) The use of the recording is limited to the judicial proceeding;

(B) Dissemination of the recording is prohibited to persons who do not need access to the recording for the purposes of the judicial proceedings;

(C) The recording or parts of the recording admitted into evidence in the judicial proceedings herein will be placed under seal to prevent the use of the recording for purposes other than these judicial proceedings.

Colgan Air, Inc. is hereby ordered to produce the CVR recorder recording subject to these protective orders, and allow counsel for plaintiffs and defendant herein to review, inspect, and make copies of this recording for the purposes of these judicial proceedings and that the original CVR recorder recording be preserved as evidence for the duration of these judicial proceedings, and any appeals.

So ordered.

Date: _____

Judge